MONTHLY OVER-RIDING CONSTRAINTS REPORT

26 October to 25 November 2024

Document Information Classification: Public

The information contained in this document is based on data that are subject to continuous verification by the Philippine Electricity Market Corporation (PEMC). The same information is subject to change as updated figures come in.
Version 1.

SUMMARY OF OBSERVATIONS

In Luzon, ten (10) extensions of PCATC and seven (7) additional PCATC submissions, mostly from renewable plants, were noted for the conduct of commissioning tests. Despite this, there was a drop in the number of impositions in the region, attributable to the completion of commissioning test for solar and hydro plants. No coal plants were imposed with over-riding constraints during the billing period. In the long term, the completion of tests for such plants may contribute to the supply in the region.

For the Visayas region, an increase in the impositions was due to the continuous extension of PCATC for wind and hydro plants for their commissioning test and additional submissions of PCATC for solar plants. This primarily contributed to the over-riding constraints in the region. Meanwhile, it was observed that fewer plants in the region conducted various tests for commercial and regulatory requirements, as coal, battery, and oil-based plants were intermittently scheduled during the billing period.

In Mindanao, there were days with no impositions of over-riding constraints that may be affected by low demand. However, on most days, oil-based plants were continuously dispatched as MRU due to the persistent system voltage requirement in the region. It was also noted that two (2) units of hydro plant was imposed of over-riding constraints due to the outage of specific transmission lines, and an extension of PCATC for biofuel plant during the period.

AT A GLANCE

Total Over-riding Constraints Imposition

104,950

▼ 5.35%
decrease from previous billing period

LUZON
79,496

Solar plants had the highest no. of over-riding constraints

Coal plants, on average, had the largest capacities scheduled due to CRR*

Most over-riding constraints were due to commissioning test of solar plants

VISAYAS
19,727

Hydro plants had the highest no. of over-riding constraints

Coal plants, on average, had the largest capacities scheduled due to emission test

Most over-riding constraints were due to commissioning test of hydro and wind plants

MINDANAO
5,727

Oil-based plants had the highest no. of over-riding constraints

Coal plants, on average, had the largest capacities scheduled due to emission test

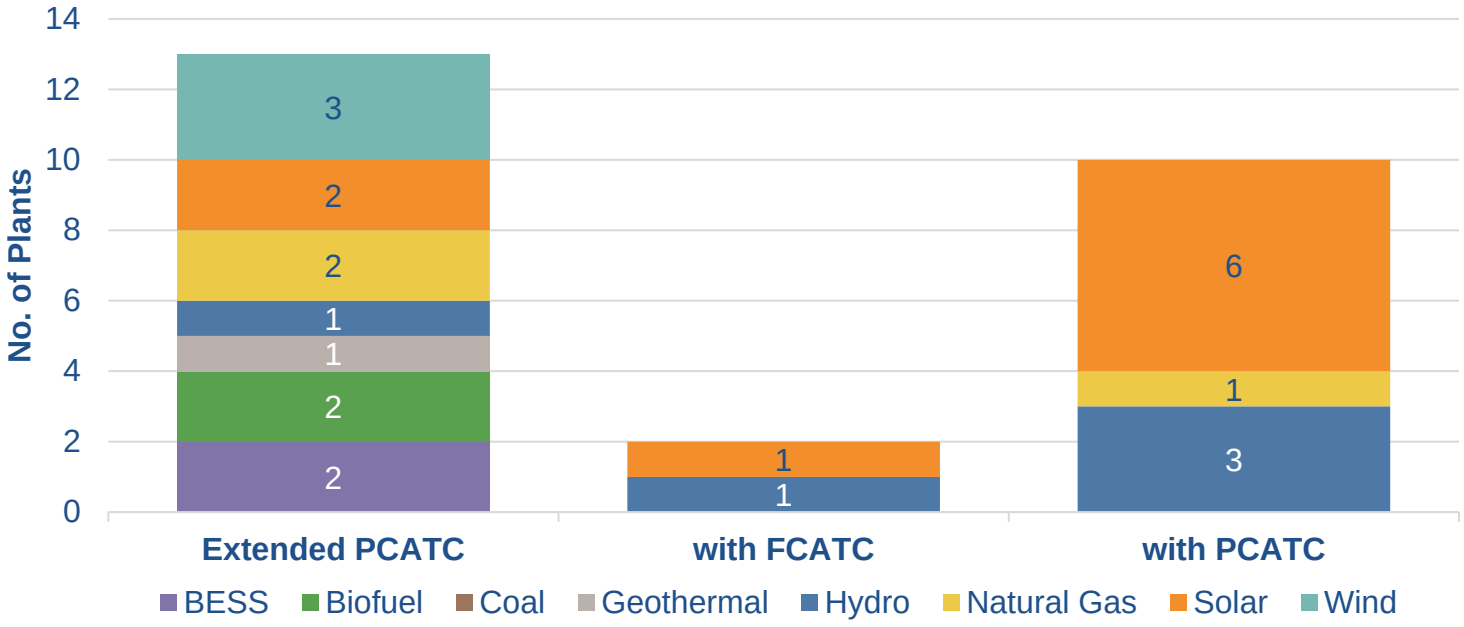
Most over-riding constraints were due to dispatch of MRU of oil-based plants

CRR – Commercial and Regulatory Requirements

STATUS OF PLANTS UNDER COMMISSIONING TEST

No. of Plants Under Commissioning Test

25



Ave. no. of days under commissioning test per plant type

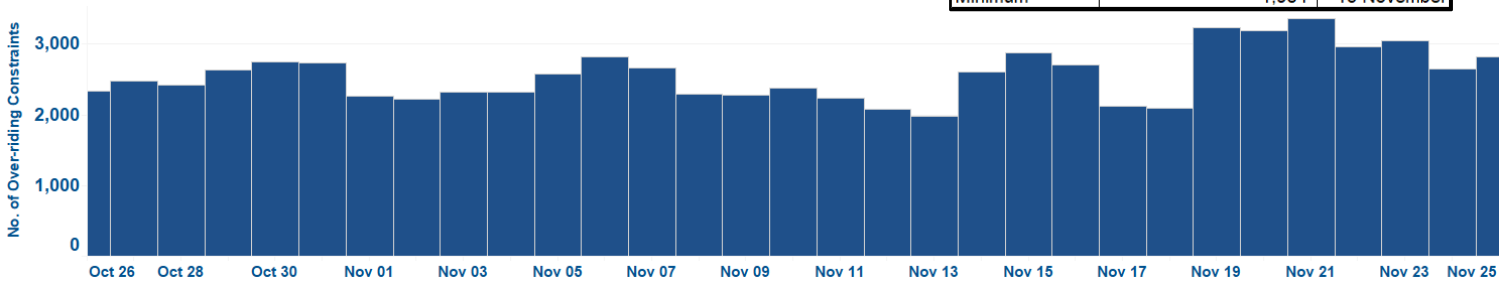
Noted no. of extension of commissioning test period

BESS	Biofuel	Coal	Geo	Hydro	Nat Gas	Solar	Wind
365	173	64	231.5	39.8	132	75.6	357.3
8 – Bataan BESS **6** – Gamu BESS	**7** - Biogas Power Plant (Phase 1) **1** – Biomass Cogeneration Plant		**10** - Palayan BPP	**1 –** Angat HPP Unit A	**5** - Batangas CCPP Unit 1 **5** - Batangas CCPP Unit 2	**7** - Subic New SPP **5** - Laoag SPP **1** – Concepcion 1 SPP	**18** – Balaoi Caunayan Wind **7** - Caparispisan Wind **6** - PWEI Nabas Wind

OVER-RIDING CONSTRAINTS

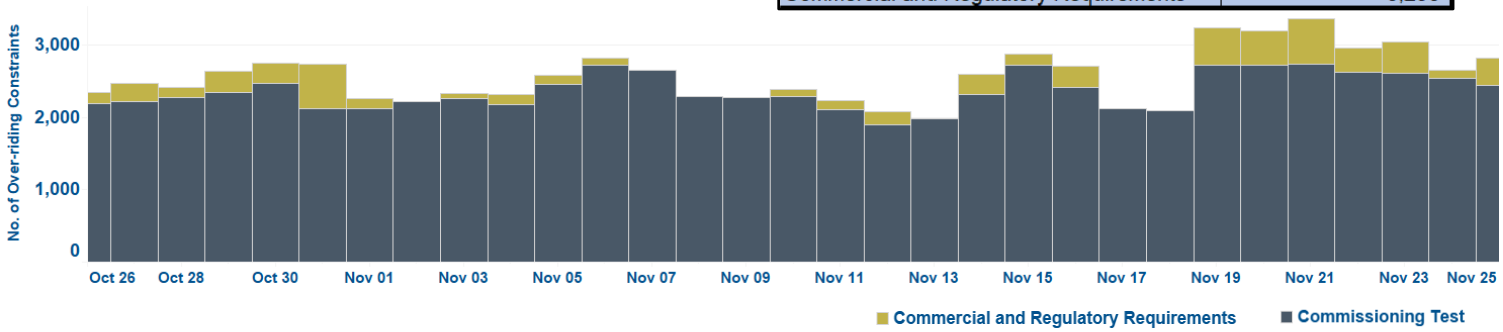
LUZON

	No. of Over-riding Constraints	Date
Maximum	3,365	21 November
Average	2,564	
Minimum	1,984	13 November



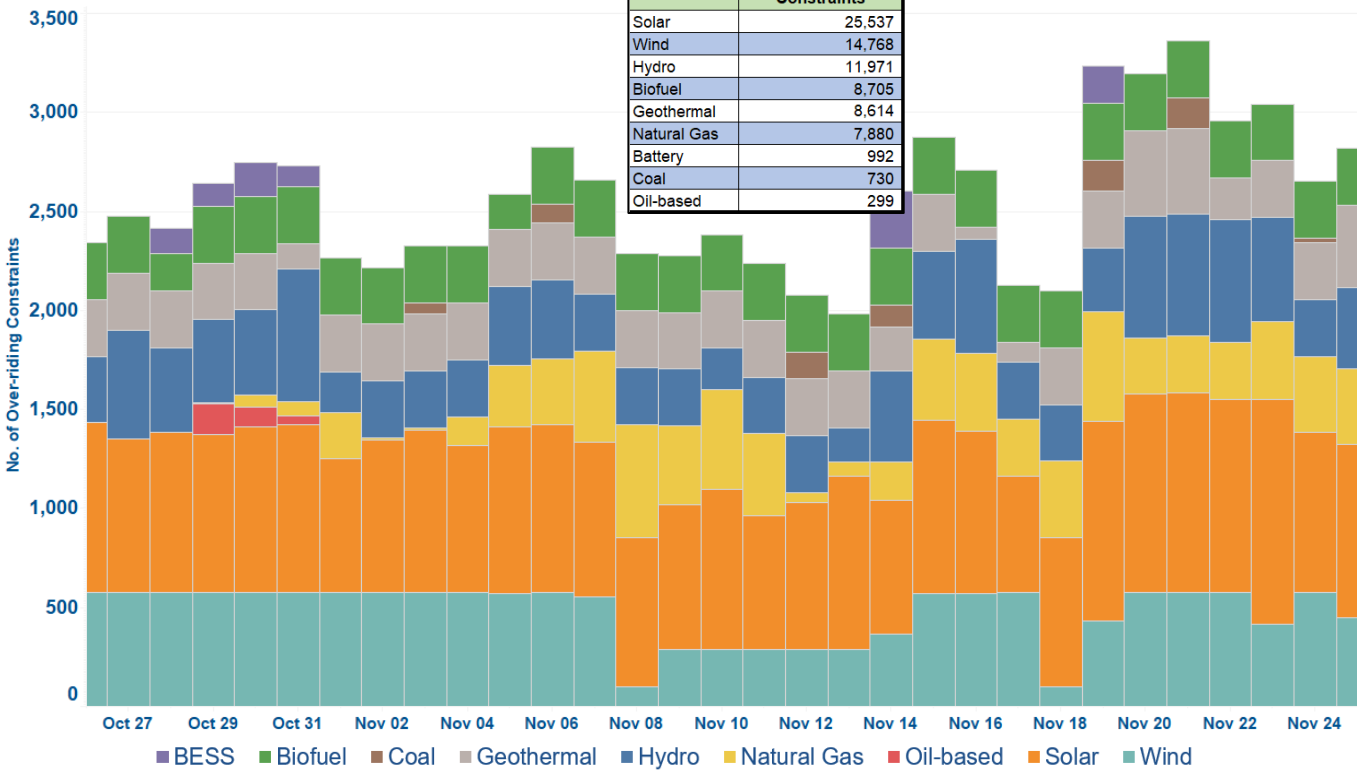
by incident

Incident	No. of Over-riding Constraints
Commissioning Test	73,206
Commercial and Regulatory Requirements	6,290



by plant type

Plant Type	No. of Over-riding Constraints
Solar	25,537
Wind	14,768
Hydro	11,971
Biofuel	8,705
Geothermal	8,614
Natural Gas	7,880
Battery	992
Coal	730
Oil-based	299



Most of the over-riding constraints were due to commissioning tests of renewable energy plants such as wind and solar. During the covered period, two (2) plants were issued with FCATCs, ten (10) extensions of PCATCs, and seven (7) new PCATCs to conduct commissioning tests – six (6) of which were RE plants. Despite the imposition of over-riding constraints, the completion of new and extended PCATCS may contribute to additional supply in the region.

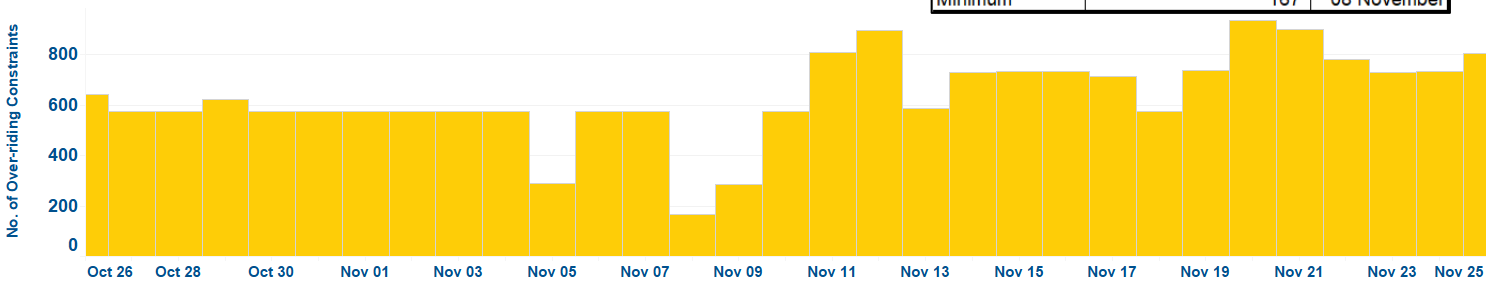
Minimal impositions were observed for oil-based plants at the beginning of the covered period due to performance tests for CIP II Power Corporation and Bulacan Power Generation Corporation. Intermittent impositions were also observed for battery and coal plants due to commissioning and performance tests in the region.

OVER-RIDING CONSTRAINTS

Public

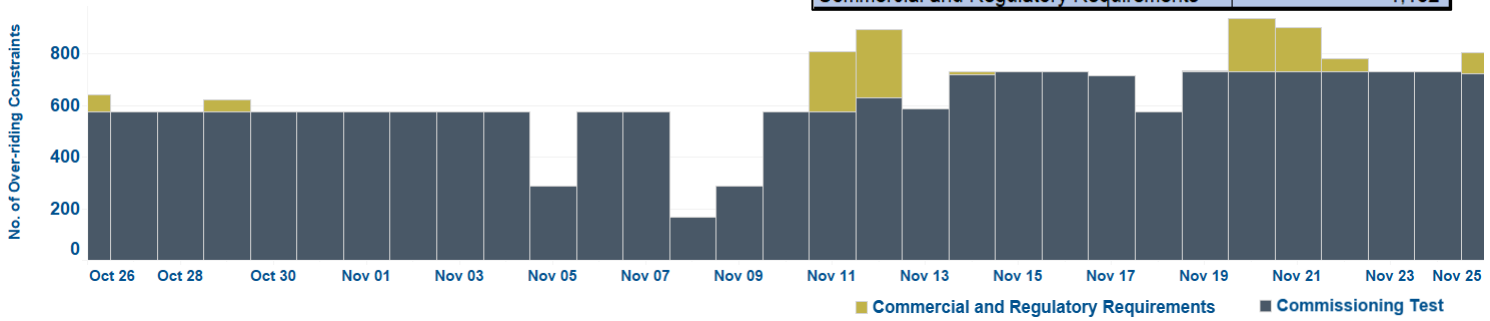
VISAYAS

	No. of Over-riding Constraints	Date
Maximum	936	20 November
Average	636	
Minimum	167	08 November



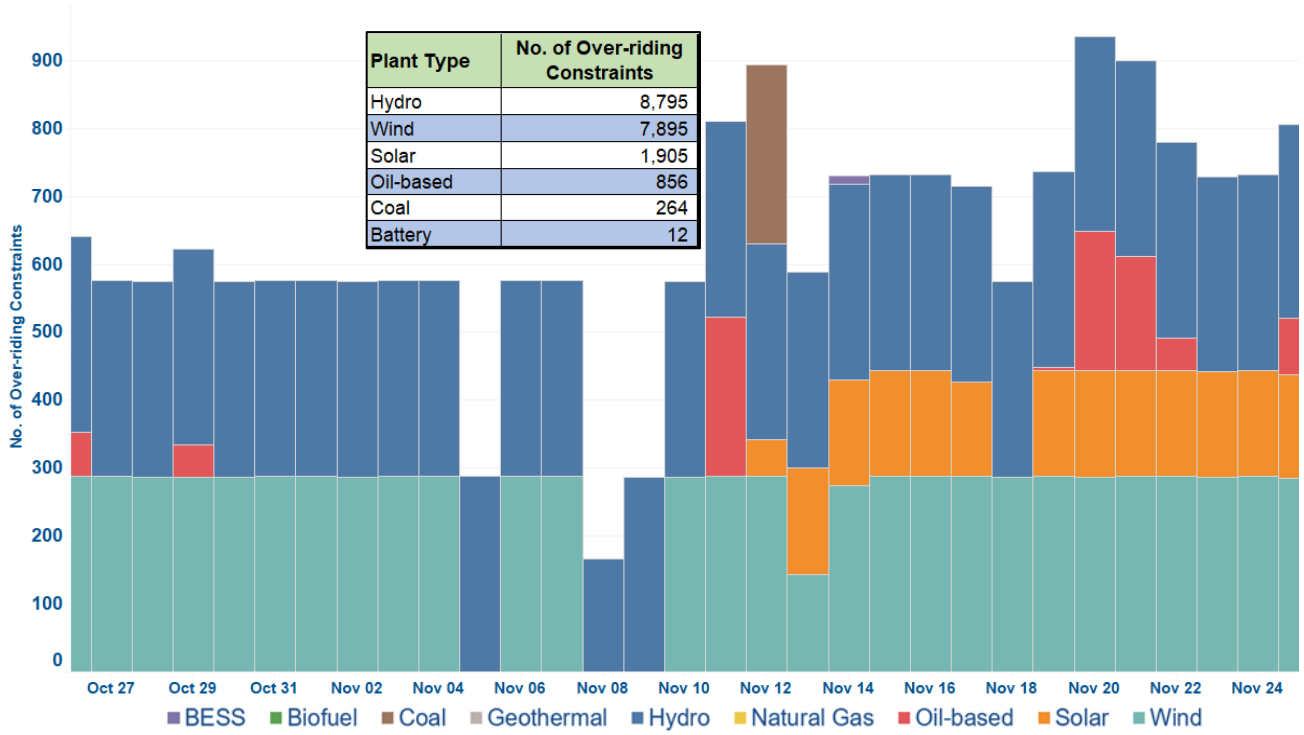
by incident

Incident	No. of Over-riding Constraints
Commissioning Test	18,595
Commercial and Regulatory Requirements	1,132



by plant type

Plant Type	No. of Over-riding Constraints
Hydro	8,795
Wind	7,895
Solar	1,905
Oil-based	856
Coal	264
Battery	12



The continuous extension of PCATCs of PWEI Nabas Wind and Upper Taft HEPP was the primary reason for most of the over-riding constraints in the region.

The imposition of over-riding constraints on oil-based plants were observed intermittently during the billing period due to various tests such as ancillary service, emission, and grid compliance tests.

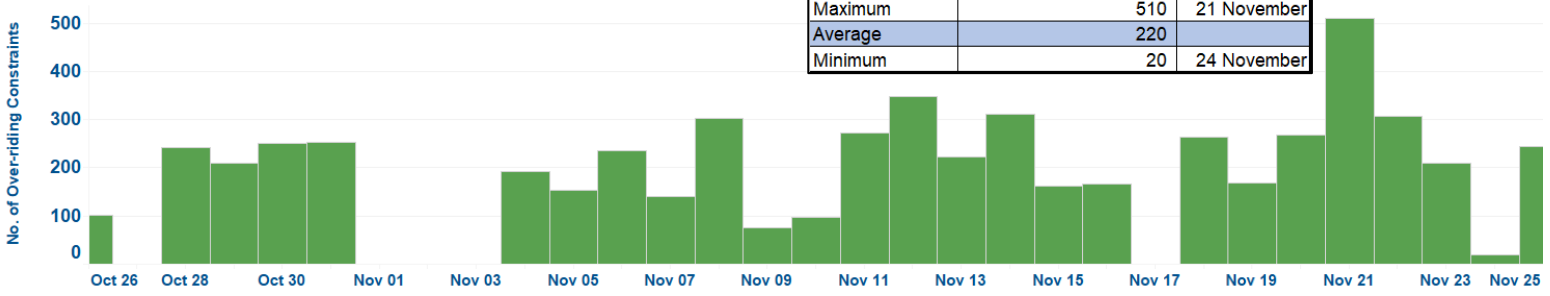
Several tropical cyclones were recorded from October to November 2024, which affected the region and the commissioning tests of solar plants. Meanwhile, Units 1 and 2 of KSPC CFTPP (coal plant) and Kabankalan Battery were noted to conduct emission and performance tests, respectively, on one scheduled day during the billing period.

OVER-RIDING CONSTRAINTS

Public

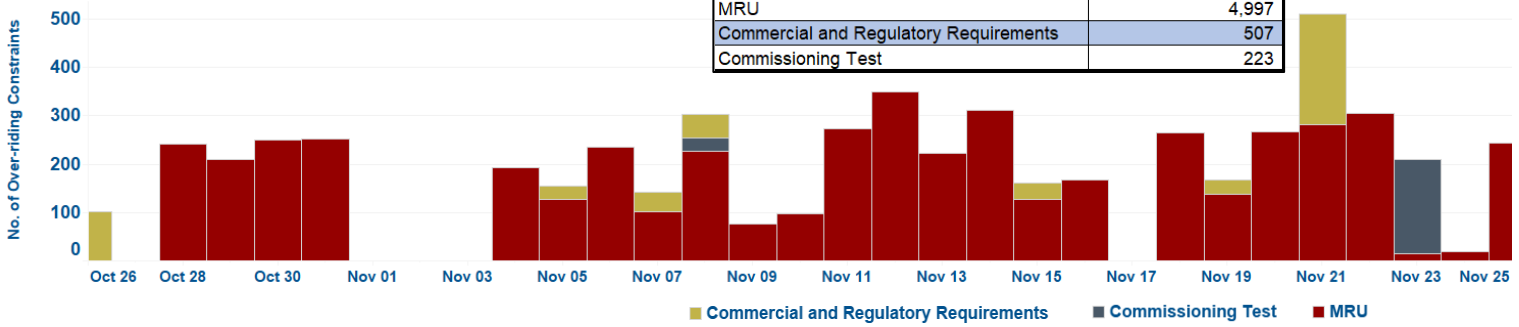
MINDANAO

	No. of Over-riding Constraints	Date
Maximum	510	21 November
Average	220	
Minimum	20	24 November



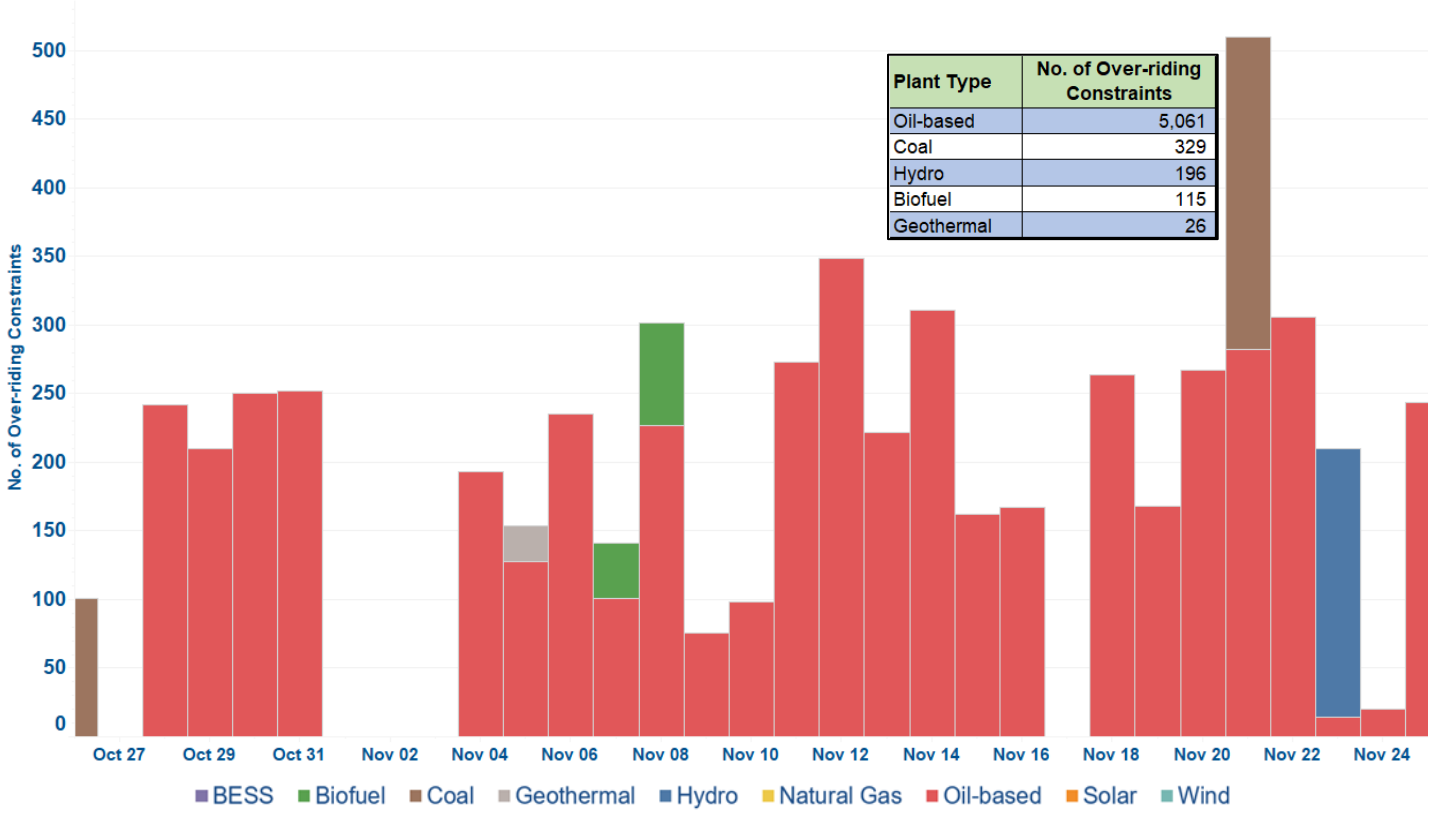
by incident

Incident	No. of Over-riding Constraints
MRU	4,997
Commercial and Regulatory Requirements	507
Commissioning Test	223



by plant type

Plant Type	No. of Over-riding Constraints
Oil-based	5,061
Coal	329
Hydro	196
Biofuel	115
Geothermal	26

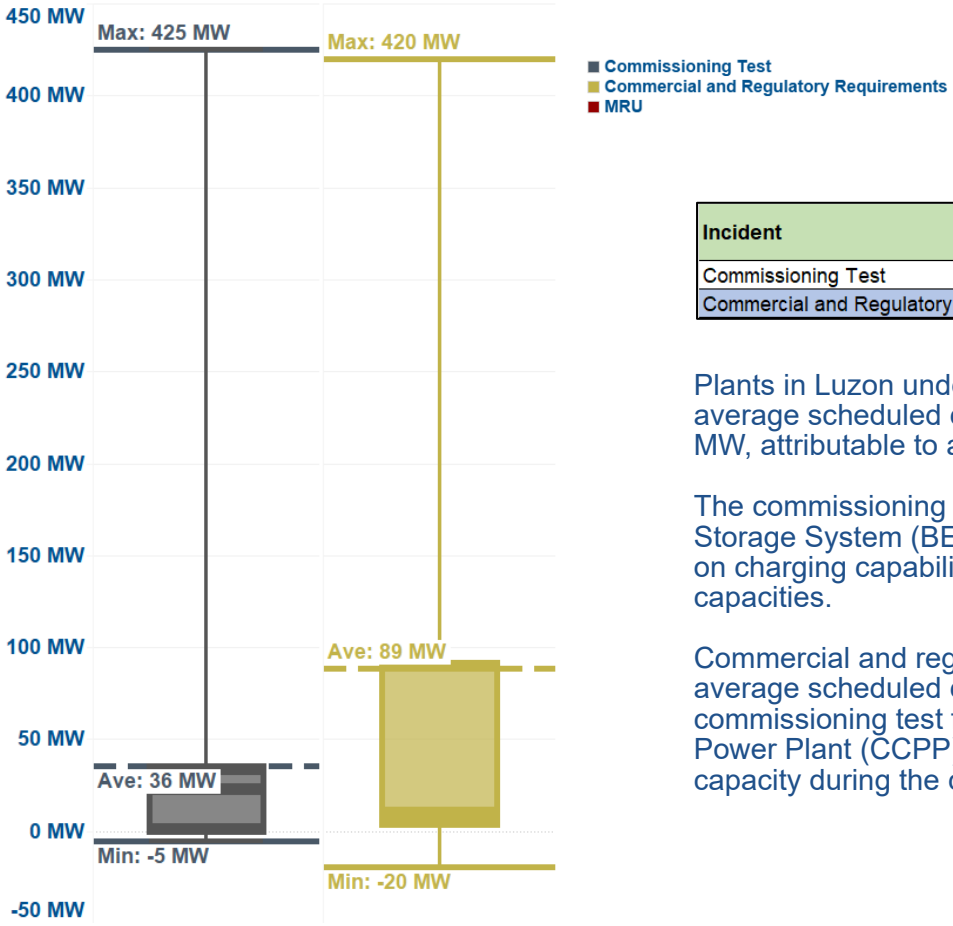


Due to the persistent system voltage requirement in Western Mindanao, the WMPC DCC (oil-based plant) was dispatched as MRU for 4,997 intervals, accounting for 87% of the time during this billing period, to meet the increasing demand. Meanwhile, other plants that contributed to the impositions of over-riding constraints were due to emission, commissioning, and performance tests conducted in the region.

SCHEDULED CAPACITIES

LUZON

by incident



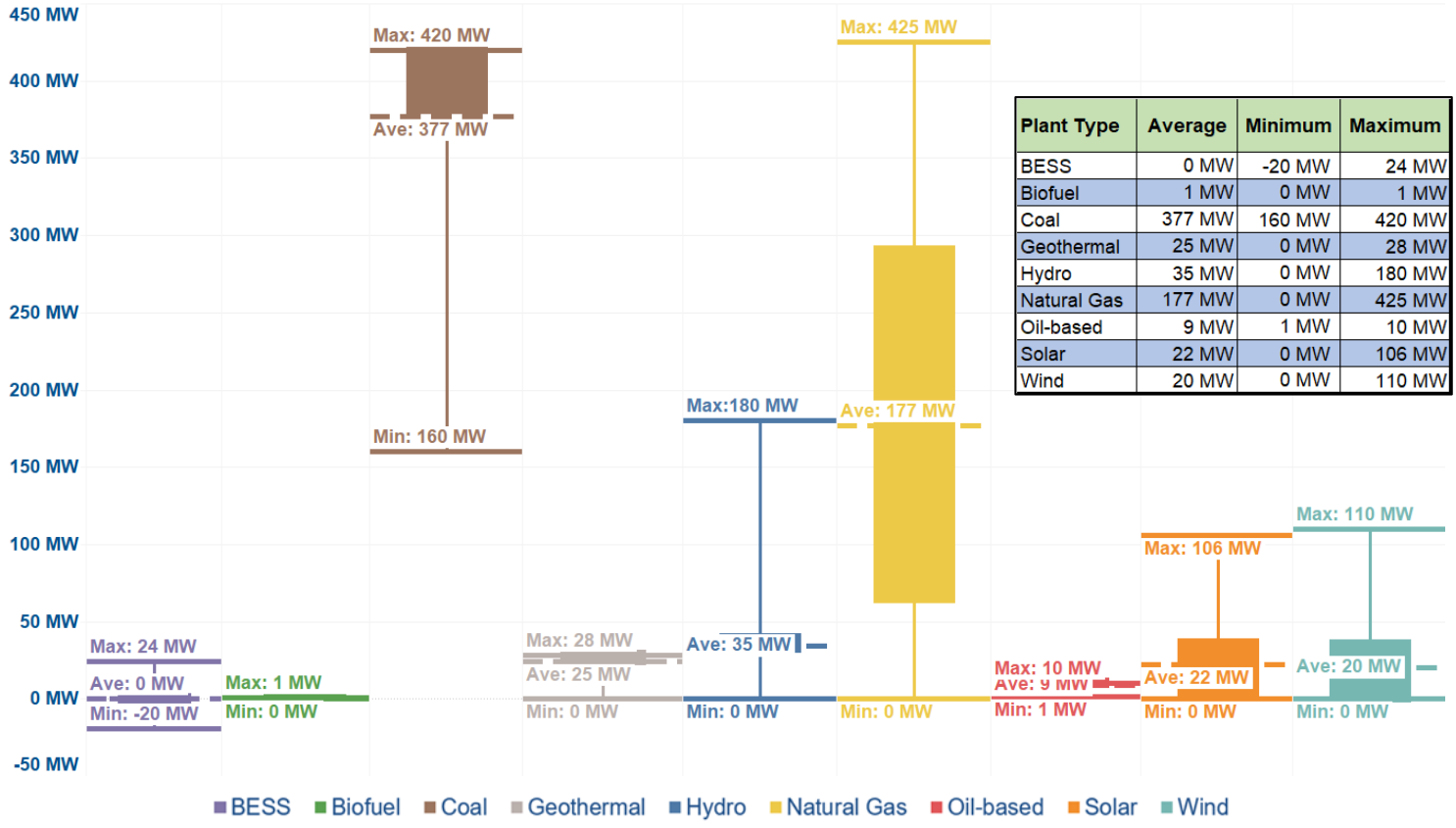
Incident	Average	Minimum	Maximum
Commissioning Test	36 MW	-5 MW	425 MW
Commercial and Regulatory Requirements	89 MW	-20 MW	420 MW

Plants in Luzon undergoing commissioning tests had an average scheduled capacity of 36 MW, with a peak of 425 MW, attributable to a natural gas plant.

The commissioning test for the Limay Battery Energy Storage System (BESS) involved testing its performance on charging capabilities, resulting in negative scheduled capacities.

Commercial and regulatory requirements led to an average scheduled capacity of 89 MW. Specifically, the commissioning test for the Batangas Combined Cycle Power Plant (CCPP) accounted for the highest scheduled capacity during the covered period.

by plant type

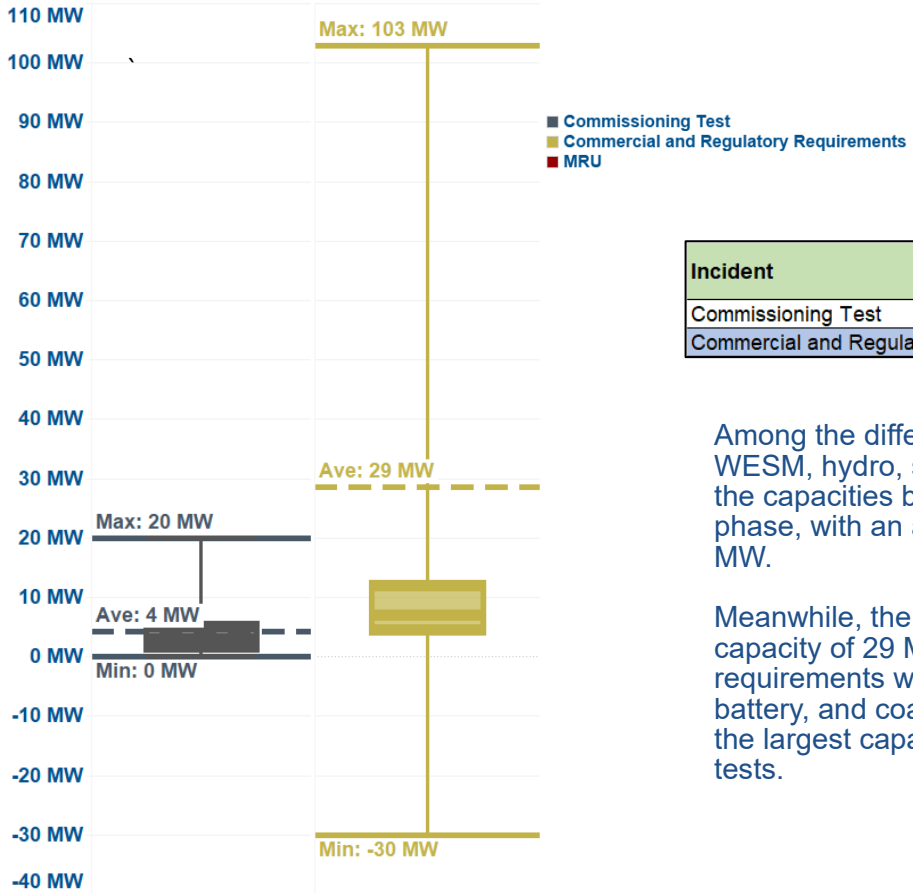


Plant Type	Average	Minimum	Maximum
BESS	0 MW	-20 MW	24 MW
Biofuel	1 MW	0 MW	1 MW
Coal	377 MW	160 MW	420 MW
Geothermal	25 MW	0 MW	28 MW
Hydro	35 MW	0 MW	180 MW
Natural Gas	177 MW	0 MW	425 MW
Oil-based	9 MW	1 MW	10 MW
Solar	22 MW	0 MW	106 MW
Wind	20 MW	0 MW	110 MW

SCHEDULED CAPACITIES

VISAYAS

by incident

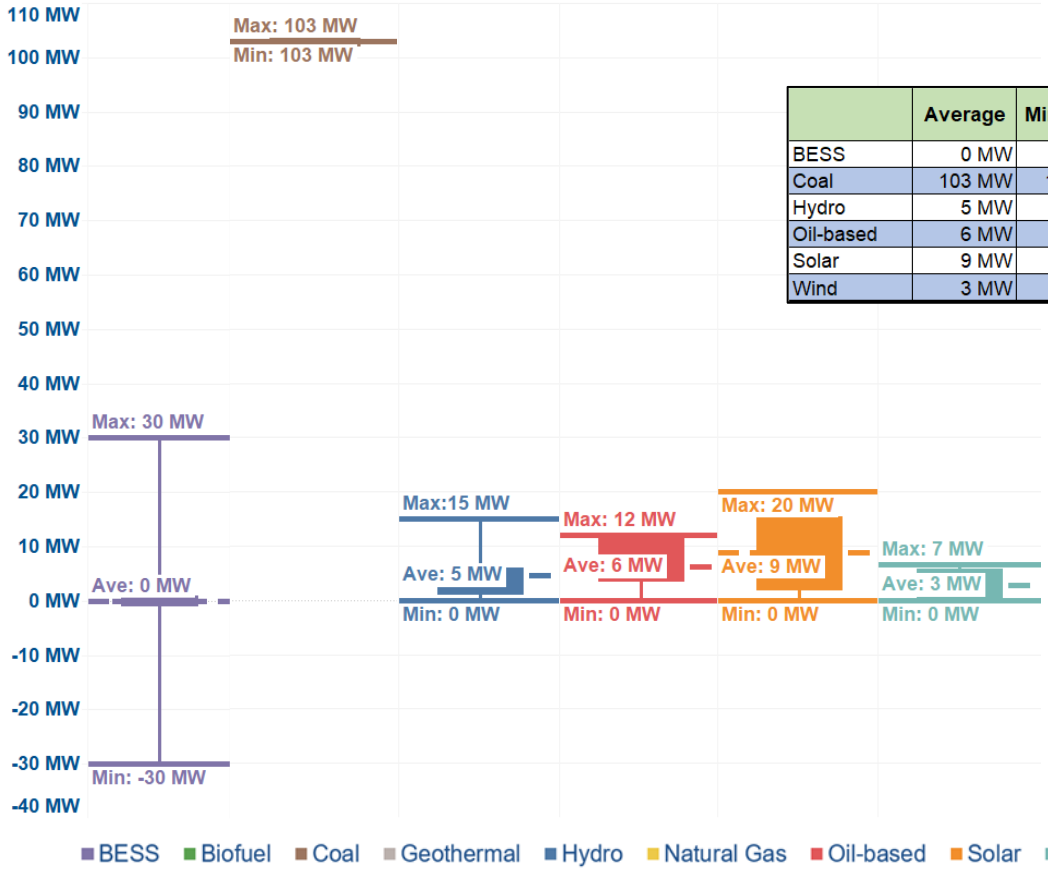


Incident	Average	Minimum	Maximum
Commissioning Test	4 MW	0 MW	20 MW
Commercial and Regulatory Requirements	29 MW	-30 MW	103 MW

Among the different types of resources in the WESM, hydro, solar, and wind plants contributed to the capacities being tested under the commissioning phase, with an average scheduled capacity of 4 MW.

Meanwhile, the recorded average scheduled capacity of 29 MW for commercial and regulatory requirements was due to contributions from oil, battery, and coal plants. Additionally, coal plants had the largest capacity overridden due to emission tests.

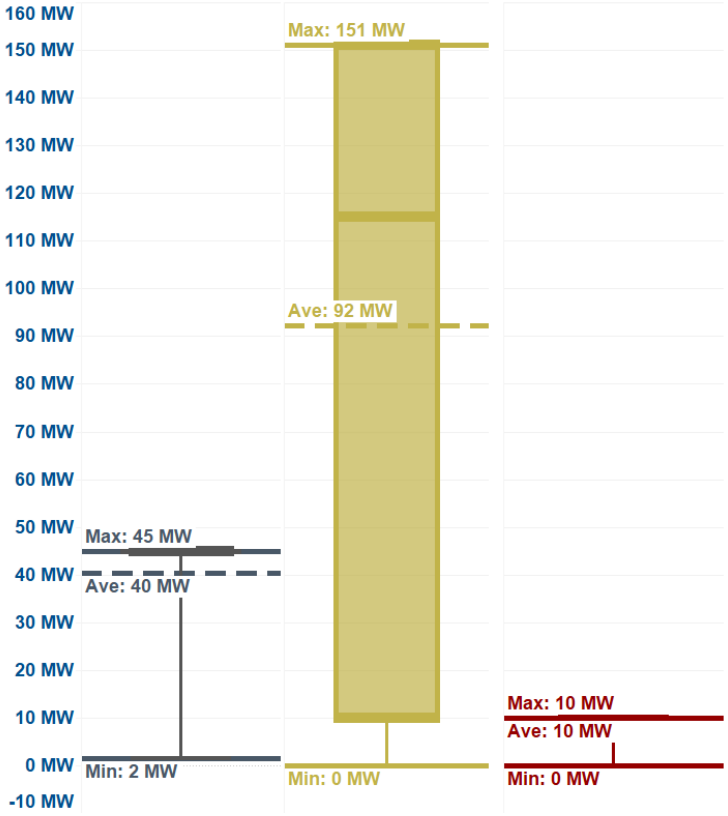
by plant type



	Average	Minimum	Maximum
BESS	0 MW	-30 MW	30 MW
Coal	103 MW	103 MW	103 MW
Hydro	5 MW	0 MW	15 MW
Oil-based	6 MW	0 MW	12 MW
Solar	9 MW	0 MW	20 MW
Wind	3 MW	0 MW	7 MW

SCHEDULED CAPACITIES
MINDANAO

by incident



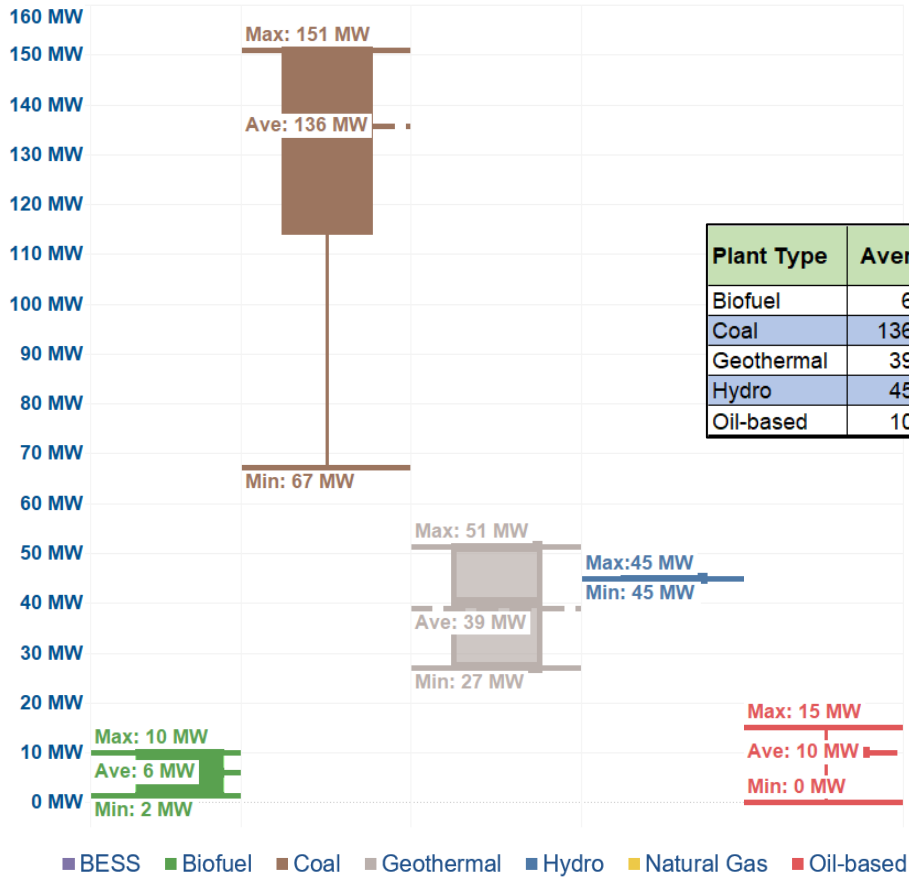
Incident	Average	Minimum	Maximum
Commissioning Test	40 MW	2 MW	45 MW
Commercial and Regulatory Requirements	92 MW	0 MW	151 MW
MRU	10 MW	0 MW	10 MW

The scheduled capacity of hydro, recorded at 45 MW, was entirely attributed to AGUS HEPP 2 Units 1 and 2 due to their commissioning test.

Under commercial and regulatory requirements, the emission test of GNP KAUSWAGAN CFTPP Units 3 and 4, peaked at 151 MW. Additionally, biofuel, geothermal, and oil-based plants were scheduled for up to 51 MW for their respective performance, ancillary service, and grid compliance tests.

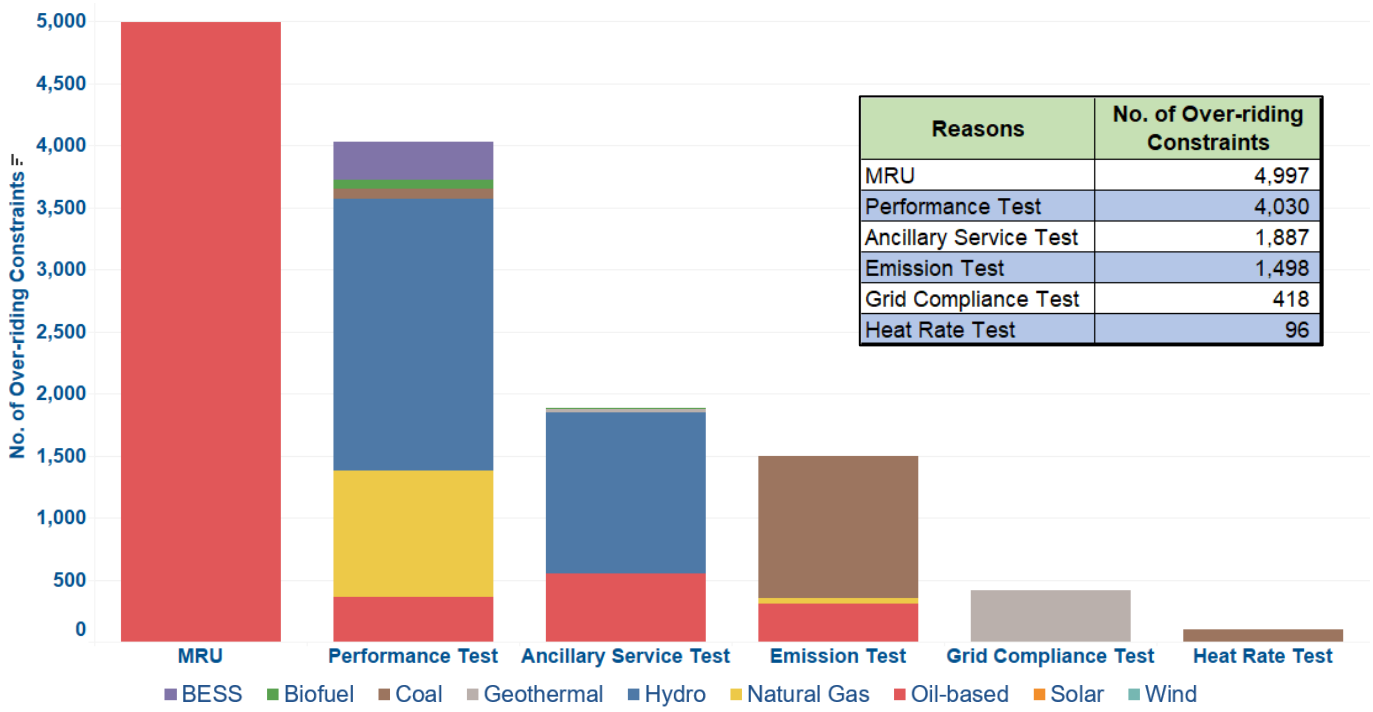
Oil-based plants continued to be scheduled as MRU, with the highest capacity at 10 MW, to address the system voltage requirement in the Mindanao region.

by plant type



Plant Type	Average	Minimum	Maximum
Biofuel	6 MW	2 MW	10 MW
Coal	136 MW	67 MW	151 MW
Geothermal	39 MW	27 MW	51 MW
Hydro	45 MW	45 MW	45 MW
Oil-based	10 MW	0 MW	15 MW

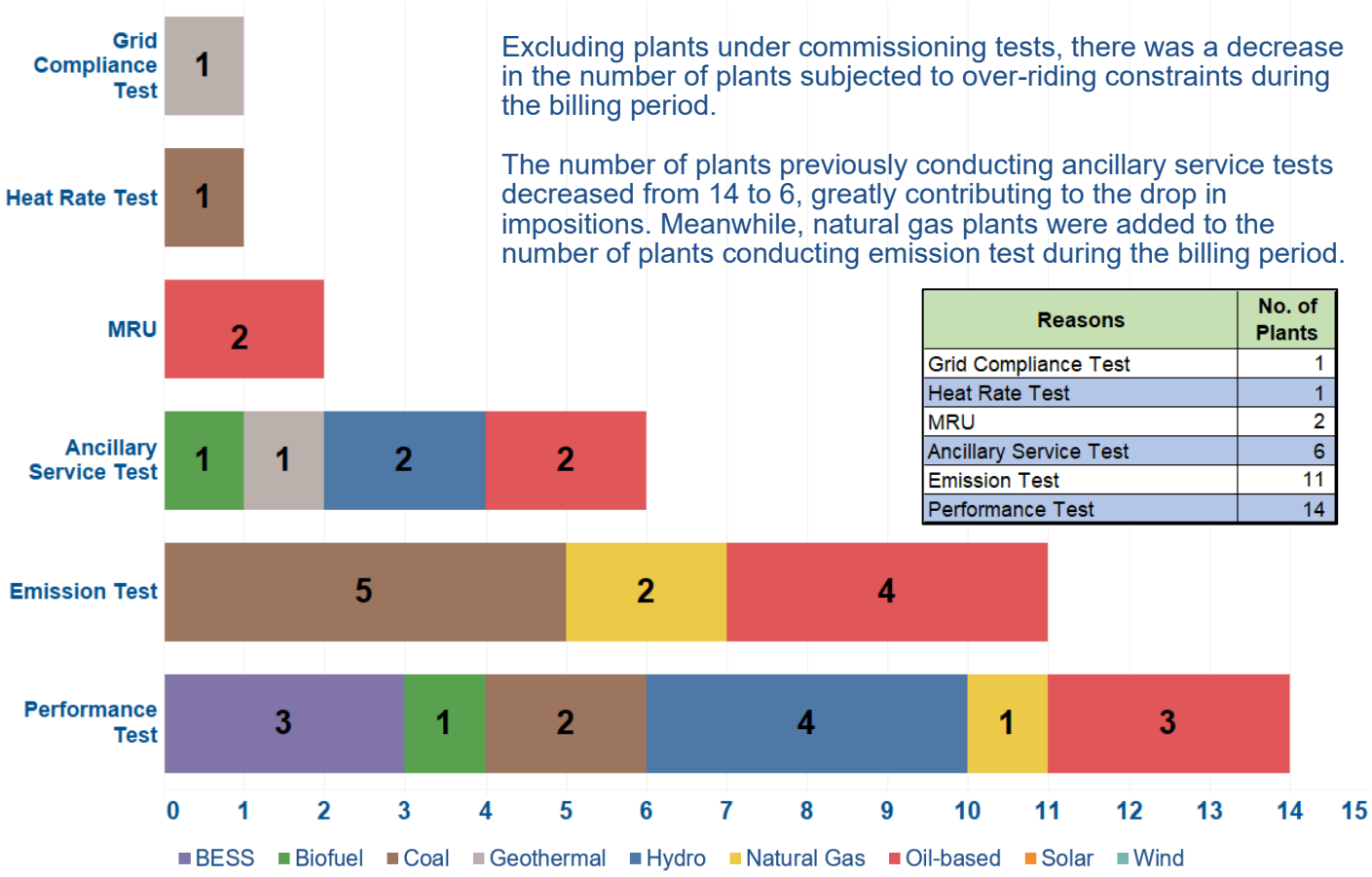
OVER-RIDING CONSTRAINTS
by incident
(excluding commissioning test)



Reasons	No. of Over-riding Constraints
MRU	4,997
Performance Test	4,030
Ancillary Service Test	1,887
Emission Test	1,498
Grid Compliance Test	418
Heat Rate Test	96

The above chart reveals that MRUs (oil-based plants) and performance tests for various plants were the main reasons for the majority of over-riding constraints during the billing period.

NUMBER OF PLANTS
by incident



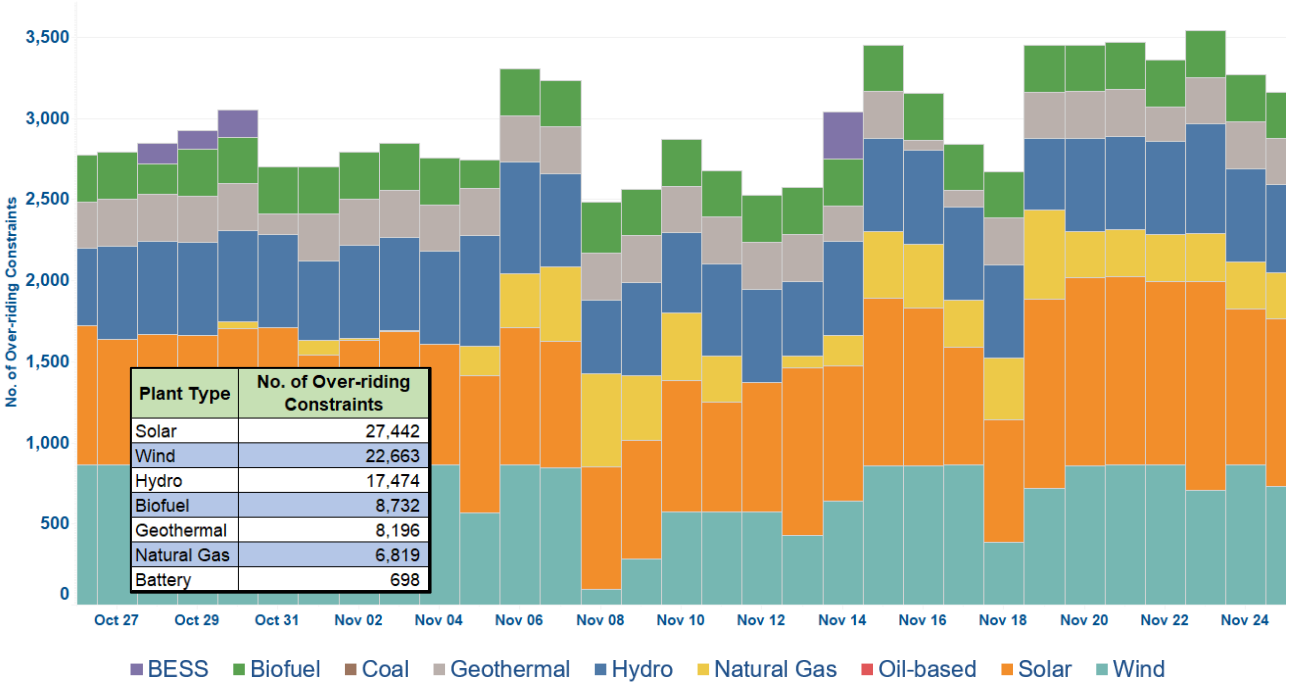
Excluding plants under commissioning tests, there was a decrease in the number of plants subjected to over-riding constraints during the billing period.

The number of plants previously conducting ancillary service tests decreased from 14 to 6, greatly contributing to the drop in impositions. Meanwhile, natural gas plants were added to the number of plants conducting emission test during the billing period.

Reasons	No. of Plants
Grid Compliance Test	1
Heat Rate Test	1
MRU	2
Ancillary Service Test	6
Emission Test	11
Performance Test	14

OVER-RIDING CONSTRAINTS

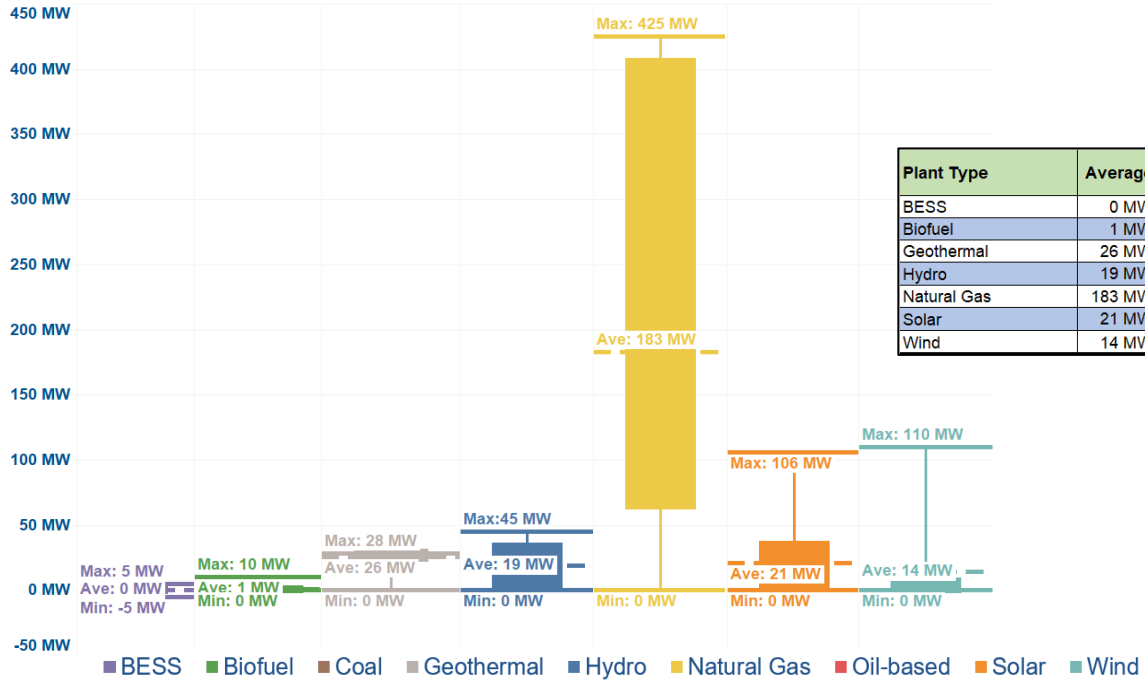
PLANTS UNDER COMMISSIONING TESTS



Plant Type	No. of Over-riding Constraints
Solar	27,442
Wind	22,663
Hydro	17,474
Biofuel	8,732
Geothermal	8,196
Natural Gas	6,819
Battery	698

SCHEDULED CAPACITIES

PLANTS UNDER COMMISSIONING TESTS



Plant Type	Average	Minimum	Maximum
BESS	0 MW	-5 MW	5 MW
Biofuel	1 MW	0 MW	10 MW
Geothermal	26 MW	0 MW	28 MW
Hydro	19 MW	0 MW	45 MW
Natural Gas	183 MW	0 MW	425 MW
Solar	21 MW	0 MW	106 MW
Wind	14 MW	0 MW	110 MW

Renewable plants experienced a large number of over-riding constraints related to commissioning tests during the billing period, with 73% of the total impositions accounted to plants such as solar, wind, and hydro. In contrast, other plants (biofuel, geothermal, natural gas, and battery) were accounted for 24%.

The continuous extension of PCATC for Balaoi Canaan Wind plant contributed significantly to the high imposition of over-riding constraints. Additionally, multiple extensions for renewable energy plants were noted, as coordinated with the System Operator, during the billing period, and two (2) plants (hydro and solar) completed their commissioning test after the extensions of PCATCs.

Compared to the previous month, there was a decline in over-riding constraints for renewable plants under commissioning tests, while there was a surge for other plants. It was also noted that the maximum scheduled capacities for most plants had decreased, except for natural gas plants, which saw a significant increase in scheduled capacities during the billing period.

ANNEX A

Plants with Over-riding Constraints

Plant/Unit Name	Plant Type	Registered Capacity (MW)[1]
LUZON		
80.000 MW Balaoi and Caunayan Wind Power Project Phase 1	Wind	80
Caparispisan II Wind Power Project	Wind	50
Concepcion 1 Solar Power Project	Solar	76
72.020 MWp Laoag Solar Power Plant	Solar	130.2
72.128 MWp Subic New PV Power Plant Project	Solar	62.7
Pagbilao 3 Power Plant	Coal	420
Biogas Power Plant (Phase 1)	Biofuel	1.7
45.758 MWh Gamu Battery Energy Storage System (BESS)	Battery	40
Mariveles Coal Fired Thermal Power Plant Unit 2	Coal	316
Angat Hydroelectric Power Plant Unit A	Hydro	38.7
32.423 MW Magat Battery Energy Storage System	Battery	24
Magat Hydroelectric Power Plant Unit 1	Hydro	97
Magat Hydroelectric Power Plant Unit 2	Hydro	97
Magat Hydroelectric Power Plant Unit 3	Hydro	97
Magat Hydroelectric Power Plant Unit 4	Hydro	97
Batangas Combined Cycle Power Plant Unit 1	Natural Gas	440
Batangas Combined Cycle Power Plant Unit 3	Natural Gas	440
Pagbilao Coal-Fired Power Plant 1	Coal	382
35.700 MW Palayan Binary Power Plant	Geothermal	31
Sta. Rita Natural Gas Power Plant 2	Natural Gas	263
Ambuklao Hydroelectric Power Plant Unit 1	Hydro	37.5
Ambuklao Hydroelectric Power Plant Unit 2	Hydro	37.5
Ambuklao Hydroelectric Power Plant Unit 3	Hydro	37.5
Binga Hydroelectric Power Plant - Unit 1	Hydro	35
Binga Hydroelectric Power Plant - Unit 2	Hydro	35
Binga Hydroelectric Power Plant - Unit 3	Hydro	35
Binga Hydroelectric Power Plant - Unit 4	Hydro	35
0.531 MW/1.400 MWh Energy Storage System (ESS)	Battery	0.5
36.646 MWp RASLAG IV Solar Power Project	Solar	26.4
75.214 MWP Palauig Solar Power Project	Solar	49.5
Kalayaan Hydro Electric Power Plant 1	Hydro	181.1
Sta. Rita Natural Gas Power Plant 1	Natural Gas	263
Sta. Rita Natural Gas Power Plant 4	Natural Gas	263
153MW Casecnan Multipurpose Hydroelectric Power Plant (HEPP)	Hydro	168
21.2656 MW Bunker C-Fired Diesel Power Plant	Oil-based	20
Sto. Domingo Solar Power Plant (SDSPP)	Solar	46.2
47.486 MW Bataan Battery Energy Storage System (BESS) Market	Battery	40
56.578 MWp Gamu Solar Power Project	Solar	46.2

[1] As of 26 November 2024

Plant/Unit Name	Plant Type	Registered Capacity (MW)[1]
42.900 MWp Bongabon Solar Power Plant	Solar	30.9
54.62 MW PPGC Diesel Power Plant	Oil-based	48
San Gabriel Avion Natural Gas-Fired Power Plant Unit 1	Natural Gas	47.2
4.00 MW Colasi Mini Hydroelectric Power Plant (MHEPP)	Hydro	4
Batangas Combined Cycle Power Plant Unit 2	Natural Gas	440
Kalayaan Hydro Electric Power Plant 3	Hydro	181.4
7.000 MW Makban-Binary 1 Geothermal Power Plant	Geothermal	6
Sta. Rita Natural Gas Power Plant 3	Natural Gas	263
VISAYAS		
13.200 Nabas Wind Power Plant Phase 2 (Nabas-2)	Wind	13.2
14.160MW Upper Taft Hydroelectric Power Plant	Hydro	14.2
Unit 1 Calumangan Bunker C-Fired Diesel Power Plant	Oil-based	4.5
Unit 2 Calumangan Bunker C-Fired Diesel Power Plant	Oil-based	4.5
Unit 3 Calumangan Bunker C-Fired Diesel Power Plant	Oil-based	4.5
Unit 4 Calumangan Bunker C-Fired Diesel Power Plant	Oil-based	6.7
Unit 5 Calumangan Diesel Power Plant	Oil-based	6.7
Power Barge 104 Unit 3	Oil-based	7
PPC3 Nabas Bunker C-Fired Diesel Power Plant Unit 1	Oil-based	3
PPC3 Nabas Bunker C-Fired Diesel Power Plant Unit 2	Oil-based	3.4
EAUC Bunker C-Fired Power Plant Unit 2	Oil-based	11
EAUC Bunker C-Fired Power Plant Unit 3	Oil-based	11.5
EAUC Bunker C-Fired Power Plant Unit 4	Oil-based	11.5
Cebu Coal-Fired Thermal Power Plant (Cebu CFTPP) Unit 1	Coal	103
Cebu Coal-Fired Thermal Power Plant (Cebu CFTPP) Unit 2	Coal	103
22.469 MW Kabankalan Battery Energy Storage System	Battery	20
27.121 MWp Dagohoy Solar Power Project	Solar	20.2
Panay Diesel Power Plant 1 (Unit 2)	Oil-based	5
Panay Diesel Power Plant 1 (Unit 5)	Oil-based	5
Panay Diesel Power Plant 3 (Unit Charlie)	Oil-based	12
MINDANAO		
112 MW Bunker-C Fired Diesel Power Plant Unit 1	Oil-based	10.2
112 MW Bunker-C Fired Diesel Power Plant Unit 4	Oil-based	10.2
112 MW Bunker-C Fired Diesel Power Plant Unit 10	Oil-based	10.2
112 MW Bunker-C Fired Diesel Power Plant Unit 7	Oil-based	10
112 MW Bunker-C Fired Diesel Power Plant Unit 6	Oil-based	10.2
114.40 MW Iligan Diesel Power Plant (Units 1-19)	Oil-based	102
10.944 MW Diesel Power Plant	Oil-based	10.7
118.501 MW Phase 1 Coal-Fired Thermal Power Plant	Coal	122
112 MW Bunker-C Fired Diesel Power Plant Unit 5	Oil-based	10.2
112 MW Bunker-C Fired Diesel Power Plant Unit 8	Oil-based	10.1
180 MW Agus II Hydroelectric Power Plant Unit 2	Hydro	60
180 MW Agus II Hydroelectric Power Plant Unit 3	Hydro	60
GNPK's Coal Fired Power Plant Unit 3	Coal	151.3
GNPK's Coal Fired Power Plant Unit 4	Coal	151
14.9MW Biomass Cogeneration Plant	Biofuel	12
54.24 MW Mindanao I Geothermal Power Plant	Geothermal	51.4

Public

ANNEX B

Plants Under Commissioning Tests

Plant/Unit Name	Plant Type	Registered Capacity (MW)	No. of PCATC Extensions[2]	No. of Days under Commissioning Tests
80.000 MW Balaoi and Caunayan Wind Power Project Phase 1	Wind	80	18	632
Caparispisan II Wind Power Project	Wind	50	7	205
13.200 Nabas Wind Power Plant Phase 2 (Nabas-2)	Wind	13.2	6	235
Concepcion 1 Solar Power Project	Solar	76	1	65
159 MWp Laoag Solar Power Plant	Solar	130.2	5	199
72.128 MWp Subic New PV Power Plant Project	Solar	62.7	7	271
36.646 MWp RASLAG IV Solar Power Project	Solar	26.4	-	38
75.214 MWP Palauig Solar Power Project	Solar	49.5	-	49
Sto. Domingo Solar Power Plant (SDSPP)	Solar	46.2	-	12
56.578 MWp Gamu Solar Power Project	Solar	46.2	-	6
42.900 MWp Bongabon Solar Power Plant	Solar	30.9	-	24
27.121 MWp Dagohoy Solar Power Project	Solar	20.2	-	16
45.758 MWh Gamu Battery Energy Storage System (BESS)	Battery	40	6	225
0.531 MW/1.400 MWh Energy Storage System (ESS)	Battery	0.5	8	505
Angat Hydroelectric Power Plant Unit A	Hydro	38.7	1	86
14.160MW Upper Taft Hydroelectric Power Plant	Hydro	14.2	1	77
4.00 MW Colasi Mini Hydroelectric Power Plant (MHEPP)	Hydro	4	-	36
180 MW Agus II Hydroelectric Power Plant Unit 2	Hydro	60	-	1
180 MW Agus II Hydroelectric Power Plant Unit 3	Hydro	60	-	1
Batangas Combined Cycle Power Plant Unit 1	Natural Gas	440	5	210
Batangas Combined Cycle Power Plant Unit 3	Natural Gas	440	-	60

[2] Based on IEMOP's status of plants under commissioning test as of 25 November 2024

Plant/Unit Name	Plant Type	Registered Capacity (MW)	No. of PCATC Extensions[2]	No. of Days under Commissioning Tests
Batangas Combined Cycle Power Plant Unit 2	Natural Gas	440	3	127
35.700 MW Palayan Binary Power Plant	Geothermal	31	10	348
Biogas Power Plant (Phase 1)	Biofuel	1.7	7	271
14.9MW Biomass Cogeneration Plant	Biofuel	12	1	75

ANNEX C

Plants Under Commissioning Tests from Previous Billing Period
that was currently no Imposition of Over-riding Constraints

Plant/Unit Name	Plant Type	Registered Capacity (MW)	No. of PCATC Extensions[3]	No. of Days under Commissioning Tests
Mariveles Coal-fired Thermal Power Plant Unit 4	Coal	150	2	115
Pagbilao Coal-Fired Power Plant 1	Coal	382	-	13
57.125 MWh Lumban Battery Energy Storage System (BESS)	Battery	50	4	145
32.423 MW Magat Battery Energy Storage System	Battery	24	-	15
(+/-) 40 MW Magapit Battery Energy Storage System	Battery	40	7	639
Liangan Hydroelectric Power Project	Hydro	11.9	2	110
Angat Hydrolectric Power Plant Unit M	Hydro	200	-	6
Kalayaan Hydro Electric Power Plant 1	Hydro	181.1	-	23
17MW Tiwi Geothermal Binary Power Plant	Geothermal	16.7	4	146

[3] Based on IEMOP's status of plants under commissioning test as of 25 October 2024

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